



PROSPECTIVE TEACHERS ONLINE ASSESSMENT LITERACY IN SECOND-SEMESTER STUDENTS OF THE ENGLISH LANGUAGE EDUCATION STUDY PROGRAM AT UNDIKSHA

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ABSTRACT

The rapid advancement of technology has transformed the educational landscape, making online assessment literacy an essential competency for prospective teachers. This study investigates the level of online assessment literacy among second-semester students in the English Language Education study program at Ganesha University of Education (Undiksha). Despite the absence of formal coursework on assessment at this stage, these students possess foundational knowledge from courses such as Wawasan Kependidikan (Educational Insights) and Perkembangan Peserta Didik (Student Development). A descriptive quantitative approach was employed, involving 121 students who completed a validated questionnaire comprising 28 items designed to measure their competencies across seven dimensions: Choosing (CH), Developing (DE), Administering (AD), Using-Decision (UD), Using-Grading (UG), Communication (CO), and Recognizing Ethics (RE). The findings reveal that the overall online assessment literacy of the participants falls within the “moderate” category, with notable variations across the dimensions. Female students performed better in Administering (AD) and Recognizing Ethics (RE), while male students excelled in Communication (CO) and Developing (DE). These results underscore the need for targeted strategies in subsequent semesters to address specific gaps and enhance overall competency. This study contributes to the literature by addressing research gaps on early-stage pre-service teachers' online assessment literacy and offers actionable recommendations for curriculum development in teacher education programs.

Keywords: Online Assessment Literacy, Prospective Teachers, English Language Education, Teacher Education, Assessment Literacy



INTRODUCTION

The role of a teacher has become increasingly multifaceted, underscoring their deep responsibility to ensure that “No Child Left Behind (NCLB),” taken from a project of the United States, in which emphasizes the critical importance of creating equitable learning environments. Teachers play a vital role in ensuring that every student, regardless of background or ability, has the opportunity to thrive (Campbell, Murphy, & Holt, 2002; Mertler, 2004). Beyond academics, teachers assume diverse responsibilities, such as controllers, planners, facilitators, role models, class managers, counselors, motivators, and assessors. These roles reflect the complexity and significance of their work in fostering both the academic and personal growth of students (Dudley-Evans & St. John, 1998; Harmer, 1990; Richards & Rodgers, 2014; Sanjaya, 2007; Smith & Lasleth, 2002).

As a prospective teacher, who is also a college student, it is a big challenges to implement all existing roles, especially being literate in carrying out assessments in the current online learning era (McGee & Colby, 2014; Sigel & Wissehr, 2011). Literate in carrying out assessment especially in online learning situations gave significant obstacles toward prospective teachers, not only in regard to designing the online assessment but also implementing technology in every students assessment process in which needing a lot preparation in it (Husain, 2021). Assessment literate here means that teachers should be able to answer 5W+1H questions, which are what to assess, why this assessment conducted, when to assess, what type of assessment needed, how to conducted the assessment, also how to face, prevent and find the solutions in every obstacles (Stiggins, 1991).

Assessment is crucial because it can provide valid information regarding the results of each student's performances, so that it can have a positive impact toward student achievement and quality in the future (Abell & Siegel, 2011). It is urgent that prospective teachers to possess assessment skills and abilities, which require them to have good assessment literacy. Assessment literacy refers to the capability or knowledge that a person has regarding assessment, not only regarding how to assess, but also being able to choose the right method and provide clear information regarding why the value was given to the students (Evans, 2013; Stiggins, 1999). The significance of assessment in education is likewise underscored by the research of Pierce (2002, as cited in Kirmizi & Komec, 2016), which emphasizes its critical role for educators. Assessment not only informs teachers about the subsequent steps required in the learning process but also enables them to support student development through effective feedback (Nurrina, Helmie, and Halimah 2018). Moreover, it assists teachers in selecting appropriate teaching strategies aligned with students' learning styles and in choosing suitable tests for various tasks to accurately assess student performance and provide deserved results.

Assessing students learning especially after facing the covid-19 pandemic situation is no longer about giving red/black marks on student's papers but through online assessment with technology as the supporting tools. In this pandemic, students' learning experience will be entirely different, as all classes will be held from home, so the communication and interaction process will be conducted

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through e-learning or other online platforms (Xie,2021). Online assessment or also known as e-assessment refers to the process of transforming traditional assessment (formative and summative) into online, in which using Information Communication Technology (ICT) as the media to assess the ability of students' learning performances (Ridgway, McCusker, and Pead, 2004). Nowadays, this online assessment is not just used when online learning occurred but even in offline learning situations, it can be implemented (Mirza,2021).

Online assessment has its challenges and opportunities toward the educators. Abdul (2021), Alhuwaydi (2021), and Kitishat et al., (2020), stated that in online learning situation, most of the teacher problems is regarding the assessment process. Those assessment problems including the process of giving the students feedback for their online tasks, analyzing the progress shown in the online learning process, also give them the final academic result with a clear explanation in it through online way. Reading those problems, Khatoony & Nezhadmehr (2020) research shown different perspective and stated that online learning, despite its challenges, offers unique opportunities for enhancing assessment literacy among teachers (Helmie and Susilawati 2018). Their findings suggest that with proper training and support, teachers can develop innovative strategies for providing timely and constructive feedback, utilizing data analytics to monitor student progress, and effectively communicating final academic results. This approach not only addresses the immediate assessment challenges but also equips teachers with valuable skills for the future of education.

American Association of Colleges for Teacher Education, American Federation of Teachers, National Council on Measurement in Education, and National Education Association (1990), outlined seven broad skills for educators competence in educational assessment that essential to develop skills in selecting and creating suitable assessment methods for making instructional decisions. These skills are administering, scoring, and interpreting both externally developed assessments and those created by the educators (Iskandar, Helmie, and Saepuloh 2024). Additionally, educators must be able to use evaluation outcomes to make informed students-specific decisions, plan design instruction, develop the educational program, and improve schools. They must also create reliable students grading methods, convey evaluation outcomes clearly to students, parents, the general public, and other educators, and identify unethical, illegal, and unsuitable practices involving assessment data.

As an English Language Education student, who has potential in becoming a prospective teacher, the biggest challenge in implementing the online assessment is no longer about technology, but online assessment literacy itself. Lack of in-depth knowledge to study and prepare assessments is one of the problem that ELE students face, so it will be difficult for them to provide positive feedback to every stakeholder affected by the assessment process, such as students, teachers, schools and parents (Berry et al., 2019; Fan et al., 2014; Lam, 2015; Lam, 2019; Pastore & Andrade, 2019). Seeing the urgency of the online assessment literacy problem amidst the large number of ELE students who will become prospective teachers

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eventually, this study seeks to explore the level of online assessment literacy of the second-semester of English Language Education students. The level of assessment literacy here means that this research will seek deeper toward the level of mastery of each student has over assessment literacy, that will be measure from the 28 questionnaires and the scale from very high until very low. These questionnaire for this study was developed by the researcher's supervisors, ensuring its reliability.

The novelty of this research is demonstrated by its focus on second-semester students from A class to the International class (IKI) within the English Language Education study program at Ganesha University of Education. On the other hand, this research novelty can also be seen from the research subjects who have not received assessment materials before. Although they have not yet studied assessment, these second-semester students have learned about *wawasan kependidikan* (educational insights) and *perkembangan peseta didik* (student development), which provide a foundation for understanding learners' need and characteristics. This knowledge is closely linked to assessment, as it helps them design assessments that align with students' developmental levels and learning processes.

THEORETICAL FRAMEWORKS

Teacher Assessment Literacy

Teacher assessment literacy is a crucial competency in modern education systems, as it enables educators to design, administer, interpret, and utilize assessment results effectively to enhance student learning. Defined as the ability to employ assessment tools and methods to collect and analyze data on student performance, assessment literacy encompasses technical expertise and the capacity to apply assessment outcomes to improve instructional practices (Eyal, 2012). Stiggins (2002) highlighted that assessment-literate teachers not only understand which methods to use for measuring student achievement but also engage in meaningful dialogue about assessment results and use them to motivate learners. Popham (2004) reinforced this perspective by describing the absence of assessment literacy as "professional suicide," emphasizing the growing reliance on student performance metrics to evaluate teacher effectiveness.

High-quality classroom assessments are guided by specific standards that ensure their alignment with educational objectives. According to Stiggins (1991b), teachers must establish clear purposes for their assessments, address various interrelated achievement targets such as content mastery and reasoning skills, select appropriate methods for different learning goals, gather representative samples of student performance, and minimize bias or errors in their practices. Building on this, Brookhart (2011) outlined seven critical competencies for educators, including the ability to develop and administer suitable assessments, interpret results accurately, use data for instructional decisions, and communicate findings to stakeholders effectively. These standards provide a framework for teachers to conduct assessments that support both instructional quality and student learning outcomes.

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Despite its importance, many teachers face significant challenges in achieving assessment literacy due to inadequate training and preparation. Research by Koh (2011) revealed that teachers often find authentic assessments more difficult to design than traditional tests, leading to a reliance on tasks that demand lower levels of cognitive processing. Furthermore, teachers frequently struggle to align their assessment practices with instructional goals and to evaluate the quality of their own assessment tools effectively (Black & Wiliam, 1998). These challenges highlight the urgent need for professional development programs that address gaps in teachers' skills and knowledge related to assessment.

Professional development plays a critical role in enhancing assessment literacy among teachers. Saddler (1998) emphasized the need for educators to develop high-quality assessments and refine their evaluative skills to make sound judgments about student performance. Koh (2011) further argued that such programs should focus on equipping teachers with the ability to design authentic assessments, use scoring rubrics effectively, and interpret assessment results to guide instruction. Moreover, Taylor (2009) pointed out that assessment literacy is increasingly recognized as a necessary competency not only for teachers but also for policymakers, parents, and other stakeholders within the broader education ecosystem, given the growing influence of testing cultures globally.

Teacher assessment literacy has significant implications for classroom practices and educational outcomes. Teachers who are assessment-literate can design assessments that meet diverse student needs, align assessment methods with instructional goals, and foster transparency in communication with parents, students, and other stakeholders (Stiggins, 1995). By addressing gaps in assessment literacy through targeted training and development initiatives, educators can ensure that their assessment practices contribute meaningfully to improving student achievement and the overall quality of instruction. Thus, cultivating assessment literacy is essential for advancing the effectiveness and equity of education in the 21st century.

Online Assessment

The integration of online assessment into educational practices has significantly transformed the way student performance is evaluated. Online assessment refers to the use of digital platforms and tools to measure students' knowledge, skills, and competencies, enabling both formative and summative evaluations. The adoption of this approach reflects the increasing emphasis on flexibility and innovation in modern education, particularly during the COVID-19 pandemic, which necessitated the use of tools such as Google Forms and Google Classroom for remote learning (Anif, 2020). Weisburgh (2003) defines online assessment as the use of scientifically-based electronic tools to evaluate or measure learning outcomes in both face-to-face and distance learning environments. This process involves four stages where the individual being assessed performs a task, the result is evaluated, the outcome is compared to a standard of performance, and the evaluation is communicated through various means such as reports or feedback.

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Online assessment tools, including computer software and internet-based platforms, have become an integral part of education due to their ability to enhance teaching and learning processes. They are often viewed as more innovative than traditional methods because they foster greater interaction, communication, and adaptability in evaluation (Liang and Creasy, 2004; Robles and Braathen, 2002).

Online assessment can be categorized into two main types: formative and summative. Formative assessments serve as ongoing tools to monitor student progress and provide feedback that guides learning improvement throughout the educational process (Brown et al., 1997). On the other hand, summative assessments evaluate students' overall performance at the conclusion of a course or module, often serving as a basis for grading or certification (McAlpine & Higgison, 2001). These categories demonstrate the adaptability of online assessments in addressing both short-term and long-term educational objectives. One of the primary benefits of online assessment lies in its efficiency and ability to provide immediate feedback. Automated grading systems and integrated digital tools streamline the evaluation process, allowing educators to focus more on instructional improvement while offering timely responses to students (Farmer, 2005). This immediacy not only enhances learning outcomes but also fosters a personalized approach to education by addressing individual learner needs. Additionally, the accessibility of online platforms ensures that students from diverse backgrounds can participate equitably, which is crucial for maintaining inclusivity in education.

Despite these advantages, the use of online assessments presents several challenges. Technical difficulties, such as unreliable internet connections and platform-related issues, can disrupt the assessment process and negatively impact both educators and students (Anif, 2020). Furthermore, concerns surrounding academic integrity, including the risks of plagiarism and cheating, raise questions about the reliability and credibility of online evaluations (Weisburgh, 2003). The difficulty of assessing certain competencies, such as practical skills or critical thinking, further underscores the limitations of this approach (Draves, 2000).

To maximize the effectiveness of online assessments, careful planning and alignment with instructional objectives are essential. Assessments must be tailored to specific learning outcomes and supported by user-friendly tools that prioritize accessibility and inclusivity. Boyle et al. (2003) emphasized the importance of using systems that facilitate clear, constructive feedback to address misconceptions and motivate learners. Additionally, timely feedback has been shown to play a critical role in guiding students toward improved performance and deeper understanding (Jihad et al., 2004). As technological advancements continue to shape educational practices, online assessments are evolving to incorporate more sophisticated tools, such as adaptive learning systems and interactive platforms. These innovations hold the potential to create more engaging and meaningful evaluation experiences for students. However, the success of such initiatives requires ongoing research and professional development to address existing challenges and ensure reliability, fairness, and inclusivity in online assessments. By



fostering these improvements, educators can leverage online assessments to support effective and equitable learning in an increasingly digital educational landscape.

Online Assessment Literacy

Online assessment literacy has become an essential competency for educators in the digital age, where technology is deeply integrated into teaching and learning processes. Building upon the principles of traditional assessment literacy, it extends to the ability to design, administer, analyze, and apply assessment tools effectively within online environments. Weisburgh (2003) characterizes online assessment as the utilization of scientifically-based digital tools to evaluate or measure learning outcomes across both traditional classroom settings and distance education. This definition underscores the flexibility and applicability of online assessments in diverse educational contexts, highlighting their role in enhancing the evaluation process through technology. This requires not only technical expertise but also an understanding of how to align assessment practices with instructional goals while addressing diverse student needs. As Wang, Wang, and Huang (2008) suggest, educators proficient in online assessment literacy can leverage digital tools to enhance the quality of feedback, optimize learning experiences, and foster improved educational outcomes.

The transition to online education introduces unique challenges that require a refined understanding of assessment practices. Designing assessments that ensure validity, reliability, and fairness in virtual contexts demands a higher level of cognitive and technical proficiency. Eyal (2012) emphasized that educators must use technology to develop authentic tasks that reflect real-world challenges, facilitating deeper engagement and understanding among students. However, as Koh (2011) observed, many educators struggle to create assessments that effectively measure higher-order thinking skills, often defaulting to traditional methods due to inadequate training and preparation. This disconnect highlights the urgent need for capacity-building initiatives to equip teachers with the skills necessary for online assessment.

Professional development plays a critical role in bridging these gaps. Saddler (1998) argued that effective training programs should focus on helping educators design high-quality assessments, utilize scoring rubrics efficiently, and interpret data meaningfully to enhance instruction. Koh (2011) further noted that educators require support to develop authentic online assessments aligned with curriculum objectives and student needs. Collaborative professional learning communities, as suggested by Garrison and Anderson (2003), offer valuable opportunities for teachers to share insights, address common challenges, and collectively explore innovative strategies for online assessment practices. Such initiatives foster a culture of continuous improvement, enabling educators to adapt to the evolving demands of technology-enhanced education.

The implications of online assessment literacy extend far beyond the classroom. Taylor (2009) underscored its importance not only for teachers but also for other stakeholders, including policymakers, parents, and students, as the

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influence of accountability measures and testing cultures continues to grow. When stakeholders share a comprehensive understanding of effective assessment practices, educational systems can better align assessments with broader learning objectives, ensuring fairness and equity. By leveraging digital tools and platforms, educators can design assessments that are inclusive and accessible, addressing diverse learning styles and resource constraints. These practices contribute to creating a more equitable and effective education system, preparing students for the demands of a technology-driven world. Developing online assessment literacy is not merely a technical requirement but a fundamental shift in how educators approach teaching and learning in the digital era. Through targeted professional development, collaborative learning, and systemic support, educators can overcome the challenges associated with online assessment and unlock its potential to improve instructional quality and student outcomes. As the education landscape continues to evolve, fostering online assessment literacy will remain essential to achieving meaningful and sustainable progress in 21st-century education.

METHOD

This study utilized a descriptive quantitative research design to investigate the online assessment literacy of second-semester prospective teachers in the English Language Education study program at Ganesha University of Education (Undiksha). A quantitative approach was deemed appropriate for this research as it allows for a clear examination of individuals' beliefs and practices concerning a specific issue (Cohen et al., 2007). The primary data were collected through an online questionnaire consisting of 28 close-ended items aimed at measuring key aspects of online assessment literacy. The data obtained were then analyzed using statistical tools, including measures of central tendency (mean, median, mode) and standard deviation, to assess the variability of responses.

The study was conducted at Undiksha, specifically within the English Language Education study program, during the second semester of the 2023/2024 academic year. The population of this study included all second-semester students, amounting to 206 students, distributed across several classes from A to IKI. A convenience sampling method was employed to select 121 students who were willing and available to participate in the survey (Dörnyei, 2007; Given, 2008).

Table 1. Research Sample

Demographics	Total
Gender	
Female	85
Male	36

To gather relevant data on prospective teachers' understanding and practices regarding online assessment, a structured questionnaire was used. This instrument contained 28 items designed to explore various facets of online assessment literacy, including challenges faced by prospective teachers and their ability to apply



theoretical knowledge in real-world contexts. The questionnaire consisted of multiple-choice questions, each framed within real-life scenarios to encourage participants to evaluate, analyze, and select the most suitable responses based on their experiences.

The validity and reliability of the instrument were carefully assessed to ensure that the data collected would be robust and meaningful. The content validity of the questionnaire was evaluated using Gregory’s formula, ensuring that the items adequately represented the domain being measured (Haynes et al., 1995; Lawshe, 1975). Empirical validity was established through the Pearson Product Moment correlation, where an item was considered valid if its significance level was less than 0.05 (Ghazali, 2016; Pallant, 2020). To assess the reliability of the instrument, Cronbach’s Alpha was calculated, with a value exceeding 0.70 considered indicative of satisfactory reliability (Gliem & Gliem, 2003; Tavakol & Dennick, 2011).

Data analysis followed a descriptive quantitative approach, where measures of central tendency (mean) and variability (standard deviation) were used to summarize the participants’ responses. This method allowed for a systematic interpretation of the data, facilitating a deeper understanding of the online assessment literacy levels among second-semester prospective teachers. The primary aim was to gauge the current level of online assessment literacy before these prospective teachers undertake formal coursework on assessment.

FINDING AND DISCUSSION

Findings

Table 2. Average Number of Online Assessment Literacy based on Gender

Demographics		Average						
Gender	CH	DE	AD	UD	UG	CO	RE	LADCG
Female	38,82	37,35	58,2 3	45,29	46,47	58,82	43,82	46,97
Male	36,80	40,97	54,1 6	48,61	43,05	59,02	40,27	46,13

The table provides an analysis of the average scores for various components of online assessment literacy among second-semester prospective teachers, categorized by gender. The components assessed include CH (Choosing), DE (Developing), AD (Administering), UD (Using-Decision), UG (Using-Grading),

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CO (Communicating), and RE (Recognizing Ethics), with an overall literacy score represented by LADCG (Online Assessment Literacy of Prospective Teachers). Female students achieved average scores of 38.82 for CH, 37.35 for DE, 58.23 for AD, 45.29 for UD, 46.47 for UG, 58.82 for CO, and 43.82 for RE, resulting in an overall LADCG score of 46.97. Meanwhile, male students scored 36.80 for CH, 40.97 for DE, 54.16 for AD, 48.61 for UD, 43.05 for UG, 59.02 for CO, and 40.27 for RE, with an overall LADCG score of 46.13.

Based on the classification ranges, both genders fall within the “Moderate” category for their overall online assessment literacy. However, a gender-based comparison shows that female students performed higher in components such as AD, UG, and RE, while male students scored higher in DE and CO. These results indicate that while prospective teachers possess a moderate level of online assessment literacy, there are areas requiring improvement. Female students could benefit from enhanced training in DE, whereas male students require support in RE and UG. The findings highlight the need for targeted strategies to improve specific components of online assessment literacy, ensuring that prospective teachers are better equipped to integrate digital assessment tools in their future teaching practices.

Table 3. Non-Parametric Test on Online Assessment Literacy of Prospective Teacher

Demographic	p-Value Significance							
	CH	DE	AD	UD	UG	CO	RE	LADCG
Gender	.463	.491	.440	.499	.373	.950	.535	.407

The results of the non-parametric test presented in Table 8 reveal that the p-values for all demographic categories in relation to prospective teachers’ online assessment literacy exceed the significance threshold of 0.05. This indicates that there are no statistically significant differences in online assessment literacy based on gender across the components measured. Specifically, the p-values for the categories range from .373 (Usage of Online Grading Systems) to .950 (Collaboration in Online Assessment Practices), suggesting uniformity in performance between male and female participants across all aspects of online assessment literacy. Although no significant differences were observed, the average scores show that female students have a slightly higher score (46.97) compared to male students (46.13). This indicates that female students performed slightly better on average, but the differences are not statistically significant based on the p-values. This pattern is consistent across competencies such as the contextualization of assessments (CH), the design and execution of digital assessments (DE), the



adaptation of assessments to online formats (AD), the understanding and use of digital assessment tools (UD and UG), collaboration in online assessment practices (CO), reflection on digital assessment practices (RE), and literacy in analyzing digital competence gaps (LADCG). The relatively lower p-value for the usage of online grading systems (.373) suggests a closer margin to significance compared to other dimensions. However, it still does not indicate a significant difference. This reflects that while female students slightly outperform male students in some areas, gender does not have a statistically significant impact on online assessment literacy overall.

Discussion

The results of this study indicate that the online assessment literacy of second-semester prospective teachers, regardless of gender, falls within the “moderate” category. Female participants scored slightly higher overall (46.97) compared to their male counterparts (46.13). Female students demonstrated stronger performance in components such as administering assessments (AD), using grading systems (UG), and recognizing ethical considerations in assessments (RE), whereas male students performed better in contextualizing assessments (CH) and communicating assessment results (CO). Despite these differences, statistical analysis revealed no significant gender-based disparities across any measured components, as all p-values exceeded the threshold of 0.05. This suggests that gender does not play a statistically significant role in online assessment literacy among prospective teachers.

The findings align with existing research emphasizing the critical role of assessment literacy in teacher education. Scholars have long advocated for the integration of assessment literacy training in both pre-service and in-service teacher education programs (Brookhart, 2001; Stiggins, 1995). Pre-service teachers often lack a comprehensive understanding of essential assessment concepts, such as constructing assessments, analyzing data, and integrating results to support student learning (Hamacheck, 2011). Campbell and Evans (2000) highlighted prospective teachers’ limited knowledge of reliability and validity and their difficulty in distinguishing between formative and summative assessment purposes. These gaps underline the pressing need for targeted interventions that build foundational competencies in assessment literacy, particularly in online contexts.

Furthermore, the moderate performance reported in this study mirrors findings from similar studies in other contexts. Anam and Putri (2021) revealed that both pre-service and in-service teachers exhibit moderate levels of classroom assessment literacy, while Prastikawati et al. (2024) demonstrated how teaching practicums significantly enhance language assessment literacy, moving participants from insufficient to moderate levels. The positive impact of practical, hands-on experiences, as evidenced by these studies, underscores the importance of integrating realistic, practice-oriented training within teacher education programs.

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The absence of significant gender differences in this study highlights the uniformity of challenges faced by prospective teachers in acquiring online assessment literacy. This finding supports research by Hariro (2024), which suggests that pre-service teachers, regardless of demographic factors, encounter similar obstacles in mastering digital assessment tools and methodologies. The shared need for improvement across genders suggests that teacher education programs should adopt comprehensive training frameworks that cater to all prospective teachers rather than focusing on gender-specific interventions.

Four effective models for developing assessment literacy have been identified in the literature, emphasizing the integration of theoretical knowledge and practical application. For example, the NAC program (Lukin et al., 2004) combines coursework with a practicum, providing opportunities for pre-service teachers to apply assessment techniques in realistic classroom settings. Similarly, the model proposed by Plake and Impara (1993), which includes simulated parent-teacher conferences, helps prospective teachers develop communication skills in explaining assessment results. Such structured approaches have been widely affirmed as effective in building assessment literacy (Brookhart, 2001; Stiggins, 1999).

These findings reinforce the necessity of embedding assessment literacy, particularly online assessment literacy, into teacher education curricula. As online education continues to expand, equipping future teachers with the skills to design, administer, and evaluate assessments in virtual environments is essential. Institutions should focus on developing structured, practice-based training programs that address identified gaps in digital literacy, such as designing adaptive assessments and utilizing digital tools effectively. By addressing these gaps, teacher education programs can better prepare prospective teachers to implement ethical, inclusive, and effective assessment practices in face-to-face or online classrooms. Such efforts will not only enhance teachers' professional competencies but also contribute to improved learning outcomes in an increasingly technology-driven educational landscape.

CONCLUSION

In conclusion, this study highlights the importance of online assessment literacy among prospective teachers, emphasizing the need to address varying competency levels across different dimensions of assessment practices. While no significant gender-based differences were found, notable trends in performance suggest that male and female students exhibit unique strengths and areas for improvement. Female students displayed stronger proficiency in operational aspects such as administering and grading assessments, as well as recognizing ethical considerations. Conversely, male students demonstrated greater aptitude in designing assessments and communicating results. These trends underscore the



need for balanced skill development to ensure that all prospective teachers are equally prepared to meet the demands of digital assessment in educational settings.

To address these gaps, teacher education programs should prioritize integrating targeted training initiatives that cater to the specific needs of students. Providing male students with enhanced opportunities to develop ethical considerations and grading skills, and equipping female students with advanced strategies for designing assessments, can help achieve a more equitable skill distribution. Furthermore, incorporating hands-on experience with digital assessment tools into the curriculum is essential to bridge the gap between theoretical knowledge and practical application. Activities such as simulated assessments and collaborative projects can create meaningful learning opportunities and improve students' confidence in using these tools effectively. Continuous professional development is also crucial to ensure that prospective teachers remain adaptable to advancements in digital assessment technologies.

By implementing these strategies, teacher education programs can foster a more comprehensive understanding of online assessment practices, better preparing prospective teachers to navigate the evolving landscape of education in the digital age. This research contributes to the growing body of knowledge on online assessment literacy and provides practical insights for improving teacher preparation programs in a rapidly digitalizing world.

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